



Elk Street Solar LLC

Timothy M. Ryan
Director

400 Market Industrial Park, Suite 32
Wappingers Falls, NY 12590
814-217-9263
tim.ryan@bqenergy.com

February 9, 2021

Honorable Rossana Rosado
Secretary of State
New York State Department of State
One Commerce Plaza, 99 Washington Avenue
Albany NY 12231-0001
Attn: BOA Program

Elk Street Solar LLC Photovoltaic Solar System – Brownfield Opportunity Area

Ladies and Gentlemen:

Please find attached a revised application for a Determination of Conformance.

We are requesting a Determination of Conformance from the New York Secretary of State for our solar project to be located at 503 Elk Street in the City of Buffalo. The project site is located within the Buffalo River Corridor Brownfield Opportunity Area, and the site owners have completed the remediation requirements of the DEC's Brownfield Cleanup Program.

We are pleased to provide you with the attached complete application form with original signatures and all required attachments. Also included is a compact disc containing the electronic PDF copy of the completed application.

Please let me know if you have any questions or comments.

Yours truly,

Timothy M. Ryan
Director

cc: Paul Neureuter, Elk Street Commerce Park
Kim Nason, Phillips Lytle



Office of Planning and Development

New York State
Department of State
Office of Planning and Development
One Commerce Plaza
99 Washington Avenue
Albany, NY 12201-2001
(518) 474-6000
www.dos.ny.gov

The Brownfield Opportunity Area Program Determination of Conformance Application Form

Applicability/Purpose: This application should be used to request a Determination of Conformance from the Secretary of State for a project located on a real property site that is (1) enrolled in and subject to the remediation requirements of the Brownfield Cleanup Program (BCP) as determined by the Department of Environmental Conservation (DEC), and located within a designated Brownfield Opportunity Area (BOA) that has been designated by the Secretary. Eligible taxpayers of a real property site, or the agent(s) of an "eligible taxpayer", must complete this application before applying to the New York State Department of Taxation and Finance to claim up to 5% increase of the tangible property tax credit for expenditures related to a qualified site pursuant to §21 of the New York State Tax Law.

This application may be submitted at any time after DEC has issued a BCP Final Decision Document approving a Remedial Work Plan as described in section 375-3.8(g) of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR §375-3.8(g)) for the real property site proposed for development.

Please do not complete this application if you wish to claim tax credits for expenditures related to these other components of the brownfield redevelopment tax credit: (1) site preparation and cleanup tax credit component, and (2) on-site groundwater remediation tax credit component. New York State Department of Taxation and Finance can provide more information on how to apply for these two tax credit components of the brownfield redevelopment tax credit.

Section 1: Applicant/Requestor Information

Is the Requestor the Property Owner? ☐ YES or ☒ NO

Name of Requestor: Elk Street Solar LLC

Address: c/o BQ Energy Development, 400 Market Industrial Park, Suite 32
Wappingers Falls, NY 12590

Phone: 814-217-9263

Email: tim.ryan@bqenergy.com

Name and Contact Information of Authorized Representative (if different):

Timothy Ryan (contact information above)

Name and Contact Information of Property Owner (if different):

Elk Street Commerce Park, LLC, 4 Centre Dr., Orchard Park, NY 14217

Paul Neureuter (716) 289-6976, paul.r.neureuter@gmail.com

Section 2: Brownfield Cleanup Program (BCP) Application Information

A. BCP Project Site Number: C915201D

B. Date that the DEC executed the Brownfield Cleanup Agreement (BCA) for the project: October 2, 2017

The Brownfield Opportunity Area Program Determination of Conformance Application Form

C. Provide date of the Final Decision Document: April 20, 2018
(Attach Final Decision Document for the DEC BCP site per application instructions DOS-2015-INST.)

D. Has DEC issued a Certificate of Completion (COC) for the BCP site?
☒ YES (If yes, date of COC: December 30, 2019) or ☐ NO

Section 3: Property Information

A. Proposed Project Name: Elk Street Solar Project

B. Address/Location: 503 Elk Street
City/Town/Village and Zip: Buffalo, NY 14210
Municipality(ies): City of Buffalo
County(ies): Erie County

C. Size of Site to be Developed (acres): 11

D. Tax map information for all tax parcels included within the project boundaries. Attach required maps per the application instructions.
Portion of 503 Elk Street, Buffalo 14210, SBL# 123.13-1-2.111 (SWIS 140200)
See attached tax map

Section 4: Brownfield Opportunity Area (BOA) Information

A. Name of Designated BOA: Buffalo River Corridor Brownfield Opportunity Area

B. Municipality or municipalities, including any county, in which the BOA is located. If more than one, list all.
City of Buffalo
Erie County

C. Is the proposed development located on a Strategic Site as described in the BOA Nomination document?
☒ YES or ☐ NO If yes, list the page(s) in the BOA Nomination where this information is referenced:

	Strategic Site Information	BOA Nomination Page(s)
1	Elk Street	105-112
2		
3		
4		

The Brownfield Opportunity Area Program Determination of Conformance Application Form

Section 5: Project Information

- A. Project Narrative. Describe the proposed development, including location, uses and density, site layout and relationship of development to surrounding uses. (Attach additional sheets if necessary.)

Elk Street Solar LLC proposes to build a 2.3 Megawatt photovoltaic solar energy generating project on an 11-acre leased portion of land (the "Site") along the Buffalo River at 503 Elk Street, Buffalo 14210. The Site for the solar facility was formerly part of an ExxonMobil tank farm, and is a portion of Operable Unit 3 ("OU3"), as designated in Brownfield Cleanup Agreement No. C915201D. The Site owner, Elk Street Commerce Park, LLC, remediated OU3 and received a Certificate of Completion from NYSDEC on December 30, 2019. Note that a portion of OU3 (625 Elk Street) is owned by Buckeye Terminals, LLC; and another portion of OU3 (1 Babcock Street), is also owned by Elk Street Commerce Park, LLC. Elk Street Solar LLC is leasing only the 503 Elk Street portion of OU3.

The Site is now vacant industrial land, zoned Heavy Industry. Operable Unit 3 has very limited redevelopment potential for buildings or any other use requiring below-ground foundations, because the subsurface soil is capped with an impermeable membrane and a covering layer of gravel. No penetration of this cap is allowed. In addition, the Site has an active groundwater pumping network on top of the gravel. This network of pipes and other equipment can't be disturbed. See Exhibit 3 survey of Environmental Easement and Exhibit 4 aerial photograph.

Elk Street Solar will construct a ground-mounted solar energy facility, using ballast block foundations and surface-mounted or above-ground electrical wiring. It is designed to leave access clearance around the above-ground groundwater pumping network. See Exhibit 5 rendering of typical ballast, rack and solar panel details. This type of ballast installation is specially designed to: (1) maintain the integrity of the cap; and (2) be easily removed from the site at the end of the project's useful life.

Elk Street Solar LLC is an affiliate of BQ Energy Development, LLC ("BQED"). BQED is a renewable energy developer based in Wappingers Falls, NY, and specializes in solar energy projects on brownfields and closed landfills. The Elk Street Solar project is the eleventh Brownfield Cleanup site where BQED has developed a renewable energy project - the other ten are operational, including Steel Winds, Steel Sun, and Steel Sun 2 in Lackawanna (Erie County) and Solean, Solean West, and Homeridae in Olean (Cattaraugus County). BQED has also completed solar energy project on closed landfills in Putnam, Dutchess, Suffolk, and Ulster Counties

There will be no public amenities provided on the site. Note, however, that the leased area is more than 50 feet away from the Buffalo River, leaving plenty of room for riverfront access. The solar project will interconnect with the local utility, National Grid, at an existing pole approximately 125 feet north of the east side of the site (see Exhibit 6 site plan drawing).

Ground-mounted solar energy is a permitted use at the site under City of Buffalo's Green Code Unified Development Ordinance, and it is compatible with existing and potential industrial and commercial uses along Elk Street. There will be no new or rehabilitated structures or buildings erected on the site. The solar energy facility will be along the Buffalo River, with access from Babcock Street. It is at the back of the 503 Elk Street lot, some 800 feet from Elk Street. Further, since the leased area is on the north side of the Buffalo River and on the south side of the 503 Elk Street lot, it has unrestricted solar access, and is completely compatible with any future uses of the rest of the land parcel, regardless of the height of such uses.

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- B. List of maps and documents attached to the application: (Refer to instructions DOS-2045-INST.)



Property base map



Site plan



Renderings



Other (Describe: See list of Exhibits

)

The Brownfield Opportunity Area Program Determination of Conformance Application Form

Section 6. Project Conformance to Criteria

- A. How are the uses proposed for the site consistent with the vision statement, goals and objectives for revitalization as described in the BOA plan? (Attached additional sheets if necessary.)

The Elk Street Solar project will be an inspiring addition to this formerly active industrial neighborhood. It is consistent with the City of Buffalo's "GreenCode" Unified Development Ordinance, which allows ground-mounted solar energy facilities as a permitted use in Heavy Industry zones. This project is consistent with the vision statement, goals and objectives for revitalization of the Elk Street Corridor Strategic Site as described in the BOA plan. The study area contains potential environmental hazards in the form of major oil storage facilities, hazardous waste sites, and brownfield properties such as this site.

The 2008 Redevelopment Plan (the "Plan") illustrated in the BOA nomination document (see Exhibit 7) proposes that the Site be developed as "Restricted Access Green Space." The illustration shows green space, grass, trees, and a pond at the Site. Unfortunately, none of those features are compatible with the remedial design as specified in the NYSDEC Decision Document. The soil was grossly contaminated with petroleum, and the remedial design incorporates excavation, backfill, in-situ stabilization, hydraulic containment, groundwater extraction and treatment, and a cover system. Further, the Decision Document precludes any excavation at the Site, such as would be required for a pond. However, the Decision Document also sets out green remediation components, including a) reducing direct and indirect greenhouse gas and other emissions; b) increasing energy efficiency and minimizing use of non-renewable energy; conserving and efficiently managing resources and materials; and c) integrating the remedy with the end use where possible and encouraging green and sustainable re-development. Given the constraints of the brownfield cleanup, the Elk Street Solar renewable energy project is exactly consistent with the Plan.

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- B. How are the density and configuration of the proposed development and associated buildings and structures consistent with the objectives, desired redevelopment, and priorities for investment as stated in the BOA plan? (Attach additional sheets if necessary.)

The Elk Street Solar project is exactly consistent with the objectives, desired redevelopment, and priorities for investment as stated in the BOA plan. It is a low-density, green use, located behind the prime development areas on the south side of Elk Street indicated in the BOA plan to be Back Office and Commercial / Light Industrial. See Exhibit 8 land use base map.

Electricity from the solar project will be made available to National Grid's commercial and residential customers in the area.

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- C. Please explain whether zoning and other land use regulations are applicable to your proposed development and if such applicable zoning or other land use regulations are set forth or proposed in the related BOA Nomination(s). How does the proposed development comply with the zoning and other land use regulations that were provided for or proposed in the BOA Nomination (if applicable)? (Attach additional sheets if necessary.)

The City of Buffalo's "GreenCode" Unified Development Ordinance allows ground-mounted solar energy facilities as a permitted use in Heavy Industry zones. Under Section 6.1.1(H(2)(m) of the Ordinance (Principal Uses), "solar farms" (i.e. ground-mounted solar energy projects) are allowed by right, without a special use permit requiring approval. The 503 Elk Street parcel is zoned D-IH (Heavy Industry); thus, the Elk Street Solar project is thus allowed by right. See Exhibit 9 Excerpt from GreenCode and property card for 503 Elk Street showing D-IH zoning.

No further review is required under the Local Waterfront Revitalization Plan as this is a Type 2 action under SEQR.

Section 7: Municipal Notification

For each municipality receiving notification, provide contact information and date the application was sent. (Attach proof of delivery as per instructions DOS-2045-INST.)

Municipality	Mailing Address	Date Application Sent
City of Buffalo	Nadine Marrero, Director of Planning City of Buffalo, Planning Division 65 Niagara Square, Room 920, Buffalo, NY 14202	January 8, 2021
Erie County	Mark Rountree, Principal Planner Erie County Department of Environment & Planning 95 Franklin St., Room 1064, Buffalo, NY 14202	January 8, 2021

The Brownfield Opportunity Area Program Determination of Conformance Application Form

Statement of Certification and Signatures

(By requestor who is an individual)

I hereby affirm that information provided on this form and its attachments is true and complete to the best of my knowledge and belief. I am aware that any false statement made herein is punishable under law, which may include punishment as a Class A misdemeanor pursuant to section 210.45 of the Penal Law.

Signature: _____

Print Name: _____

Date: _____

(By a requestor other than an individual)

I hereby affirm that I am Director (title)
of Elk Street Solar LLC (entity);

that this application was prepared by me or under my supervision and direction. I hereby affirm that information provided on this form and its attachments is true and complete to the best of my knowledge and belief. I am aware that any false statement made herein is punishable under law, which may include punishment as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Signature:  _____

Print Name: Timothy M. Ryan

Date: February 9, 2021

SUBMISSION INSTRUCTIONS

Submit one (1) hard copy of this completed application form with original signatures and all required attachments. In addition, transmit one (1) complete electronic copy of the completed application with all required attachments in Portable Document Format (PDF). The hard copy documents, together with a thumb drive, compact disk (CD), or DVD containing the electronic PDF copy of the completed application, should be sent to:

Honorable Rossana Rosado
Secretary of State
New York State Department of State
One Commerce Plaza, 99 Washington Avenue
Albany, NY 12231-0001
Attn: BOA Program

Brownfield Opportunity Area Program Determination of Conformance Application Form

Elk Street Solar LLC Photovoltaic Solar System

Site C915201D

List of Exhibits

- Exhibit 1. Tax Map with site lease area**
- Exhibit 2. Buffalo River Corridor Brownfield Opportunity Area Nomination Document, pages 105-112 (Elk Street Strategic Site)**
- Exhibit 3. Environmental Easement Survey showing lease area**
- Exhibit 4. Aerial photograph showing lease area**
- Exhibit 5. Rendering: typical ballast, rack, and panel detail drawing**
- Exhibit 6. Site Plan submitted to for interconnection, dated April 28, 2020**
- Exhibit 7. Redevelopment Plan Map from BOA Nomination Document**
- Exhibit 8. Land Use Base Map from BOA Nomination Document**
- Exhibit 9. City of Buffalo GreenCode Section 6.1.1 H and 503 Elk Street Property Card showing D-IH zoning classification Heavy Industry**
- Exhibit 10. Final Decision Document dated April 20, 2018**

Attachment

- Proofs of Delivery to each municipality**

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TOWNSHIP
TOWNSHIP

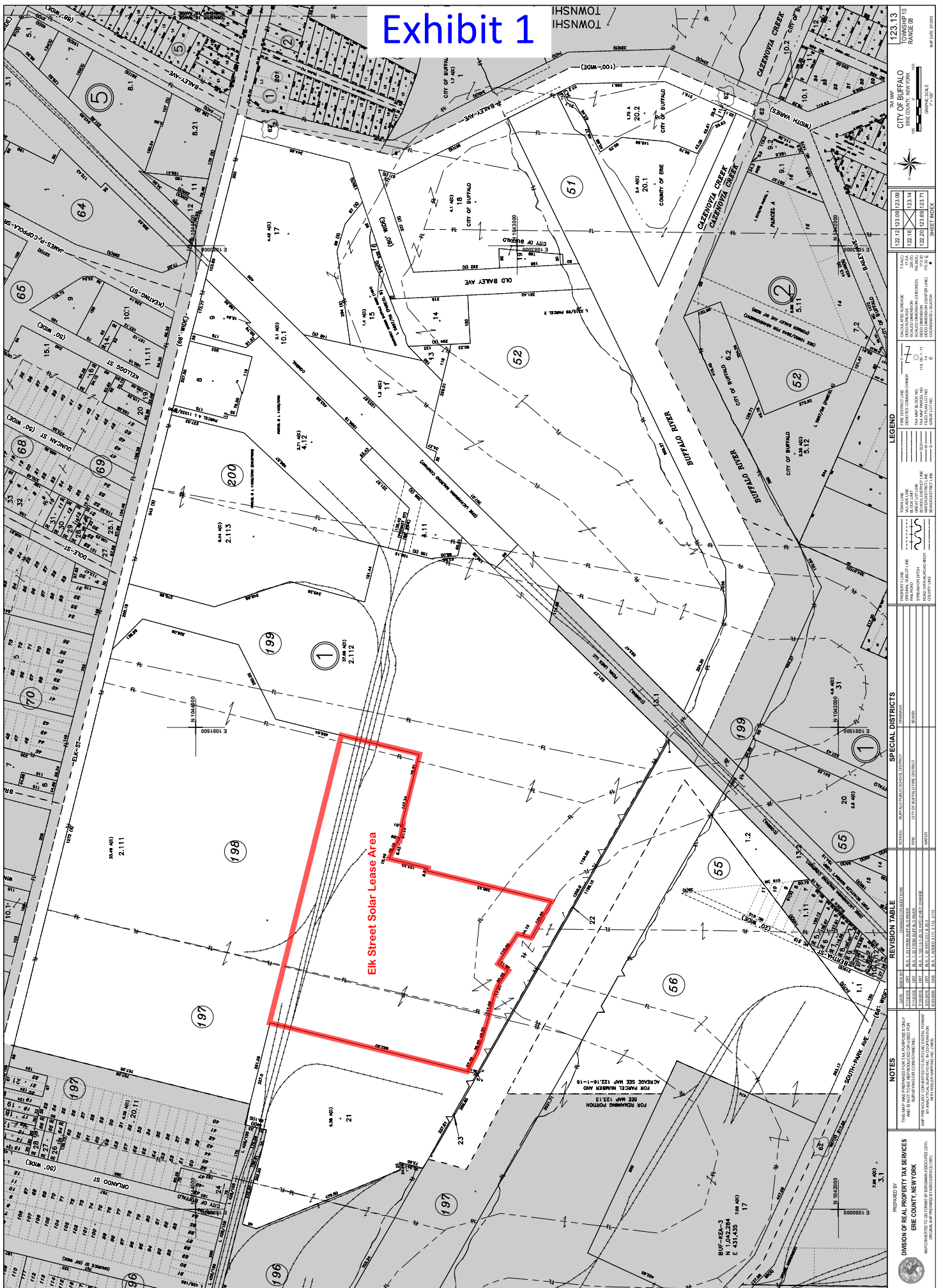


Exhibit 2



BUFFALO RIVER CORRIDOR Brownfield Opportunity Area NOMINATION DOCUMENT

CITY OF BUFFALO

Byron W. Brown, Mayor

Elizabeth A. Ball, Deputy Mayor

OFFICE OF STRATEGIC PLANNING

Brendan R. Mehaffy, Executive Director

Bill Parke, AICP, Project Manager

CONSULTANT TEAM

Bergmann Associates

Camiros

Fisher Associates

Pan American

RKG

Urban Design Project

Urban Strategies

Watts Architecture & Engineering

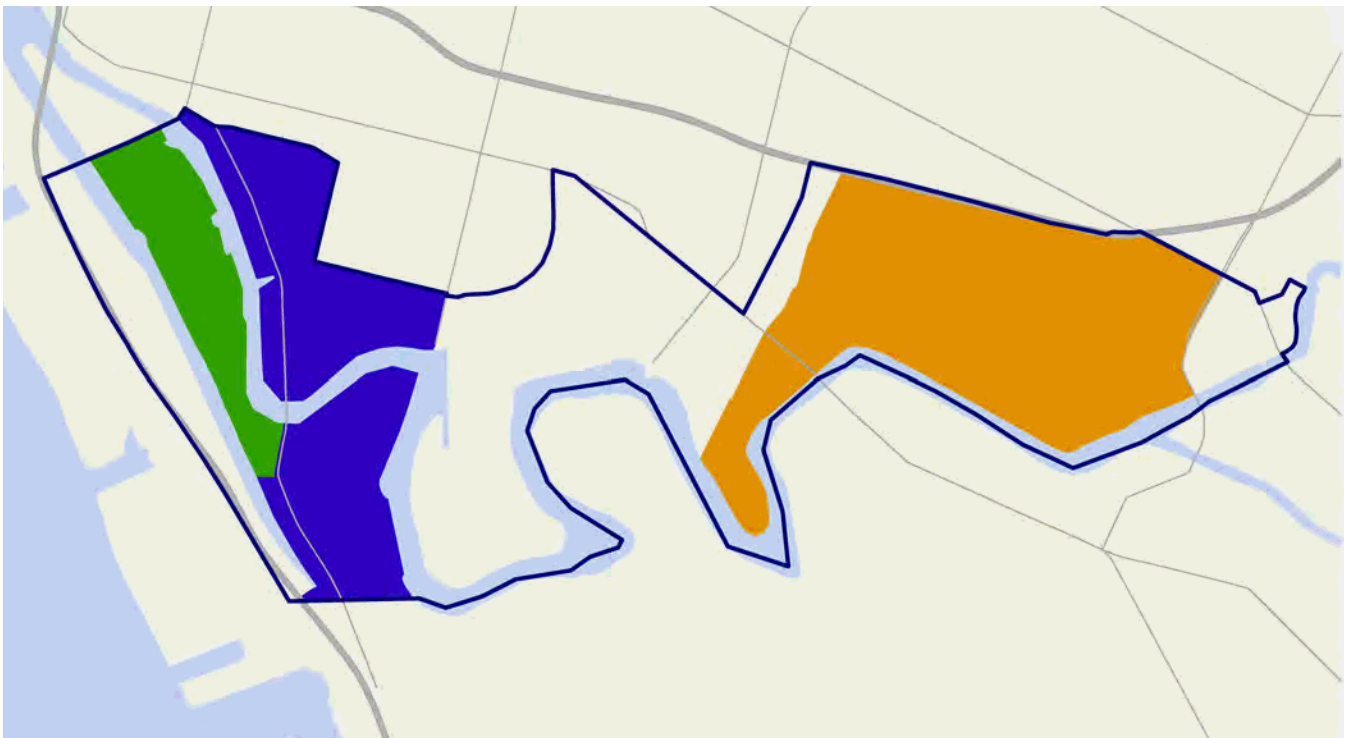
February 2017



This document was prepared for the City of Buffalo under the Brownfield Opportunity Areas Program. The New York State Department of State provided financial support and technical assistance; and the New York State Department of Environmental Conservation provided additional technical assistance.

6 STRATEGIC LOCATIONS

Three strategic locations were identified within the BOA: Kelly Island, Ohio Street, and Elk Street. These were considered strategic due to a combination of factors including location, current land uses, proximity to transportation, environmental conditions, and redevelopment potential.



6.3 Elk Street

The Elk Street Corridor was once the site of heavy industry, but has been transitioning with the loss of employers such as Allied Chemical, Trico, Thompson Paper, and Exxon Mobil. Today the study area's location makes it attractive for commercial and light industrial redevelopment, as demand for space increases and areas such as Lakeside Commerce Park and RiverBend are built out.

The original Elk Street Corridor Redevelopment Plan was completed in 2008 with input from a 15-member steering committee that included representatives from Honeywell, Exxon Mobil, National Grid, Empire State Development, the state DEC, Buffalo-Niagara Enterprise, Erie County Industrial Development Agency, and Buffalo Urban Development Corporation. The committee identified opportunities and constraints, and proposed a preferred redevelopment scenario based on assessment of the alternatives. This report serves to update the 2008 Redevelopment Plan based on current conditions and information.

The boundaries employed were originally set for the 2008 study, and include the I-190 to the north, the Buffalo River to the south, Bailey Avenue to the east, and a rail corridor to the west. The study area is located within and adjacent to areas that have recently been targeted for various planning activities, including the city's Local Waterfront Revitalization Plan, and Brownfield Opportunity Area plans for South Buffalo and the Buffalo River Corridor.

Existing Conditions

The updated Elk Street Corridor Redevelopment Plan is based on a thorough understanding of the study area's current conditions, and will identify land use trends, development opportunities and constraints, and corridor improvements that will encourage private investment.

The study area is adjacent to the Valley and Old First Ward neighborhoods. The First Ward was originally settled by Irish immigrants as completion of the Erie Canal and invention of the grain elevator transformed Buffalo into a shipping and industrial center. The Irish settled into dense working-class neighborhoods along the Buffalo River.

The Valley was settled in the 1870s as the First Ward was built out, forcing development and residents further east down present day Elk Street (then known as South Park Avenue) toward South Buffalo. Many of the original resi-

dents of the Valley came from the First Ward, and the shared churches and other community institutions reinforced the connection between the two neighborhoods. These similarities were further emphasized by the geographic isolation of the First Ward and Valley from other city neighborhoods. Over time, many of the employers that initially drew residents to the Valley closed, leaving behind vacant and contaminated sites that required remediation.

Land Use According to current assessment data, the study area is comprised of 219 parcels and 265 acres of land. Vacant properties make up the largest land use within the study area, comprising 53 percent of parcels and 43 percent of the land area, the result of former industrial operations that have left the area. Clusters of vacant parcels are also present on the residential streets between Elk and the I-190. While vacant properties can present challenges for a neighborhood due to negative perceptions, they also provide the study area with its greatest opportunity for redevelopment and rebranding.

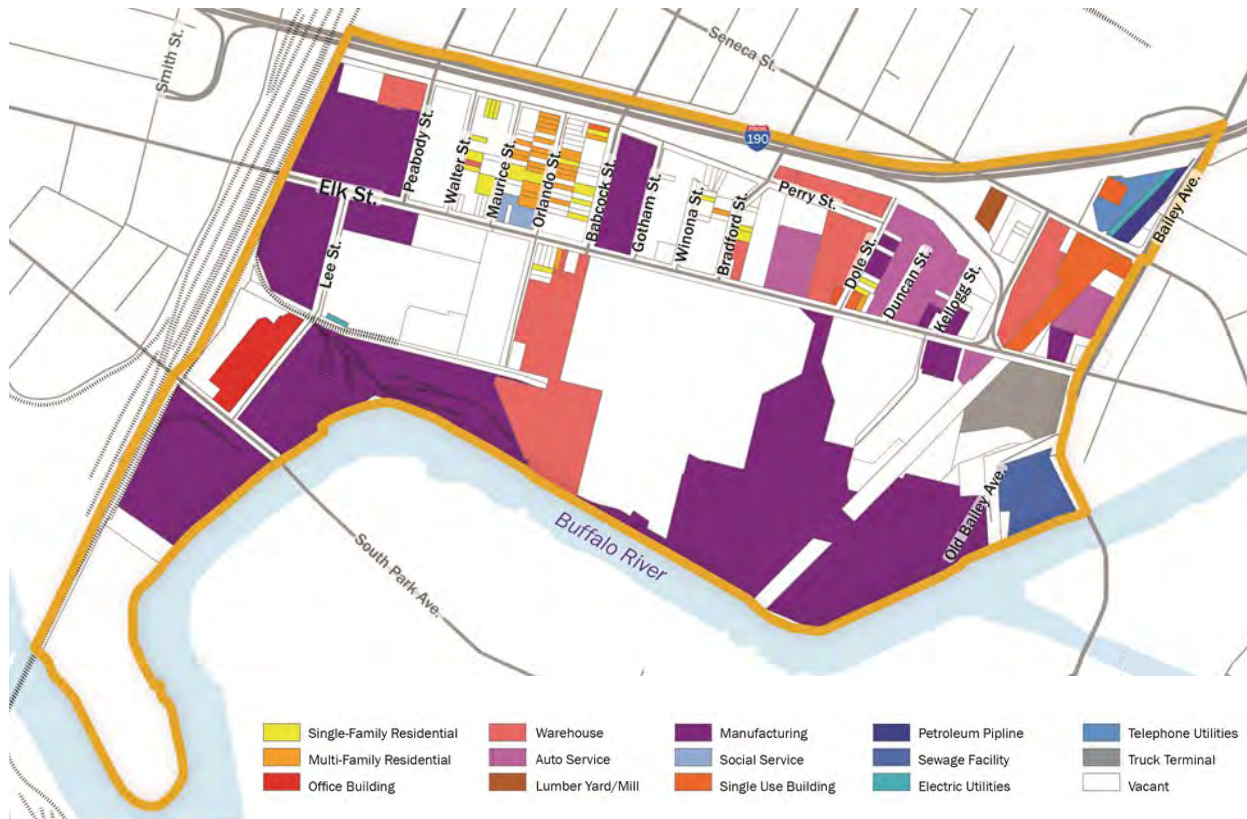
Residential properties comprise 21 percent of the parcels, but less than 2 percent of the land area due to their small size. Residential land uses are primarily located north of Elk Street along Walter Street, Maurice Street, Orlando Street, and Babcock Street.

Commercial properties comprise 10 percent of the parcels, and almost 16 percent of the land area. These are generally located at primary intersections and along transportation routes such as Bailey Avenue and Seneca Street. Commercial land uses generally consist of motor vehicle services, storage, warehousing, and distribution facilities.

Industrial properties account for 8 percent of the parcels, but at 35 percent make up the second largest land use. Industrial activities within the study area are generally characterized as manufacturing and processing; and are located south of Elk Street abutting the Buffalo River, as well as in the northwest portion of the study area.

The majority of property within the study area is privately owned, with the exception of small, publicly-owned areas associated with transportation rights-of-way or open spaces. While publicly-owned properties generally offer greater opportunities for redevelopment, the corridor has large amounts of privately-owned vacant parcels, which offer redevelopment opportunities that should be identified and coordinated with input from current property owners.

Land Use



Transportation The study area's historic industrial development can be largely attributed to its transportation assets. The study area is located in proximity to highway, rail, and waterways, which facilitated the shipment of raw materials and finished products to and from area industries.

The area is bordered on the north by the I-190, a six-lane limited access highway that experiences approximately 86,700 vehicles per day in the section adjacent to the Elk Street Corridor. This highway provides access to downtown and Canada to the west, and the New York State Thruway (I-90) to the east.

Bailey Avenue borders the area to the east, and is a principal arterial that carries 16,000 to 19,000 vehicles per day. Seneca Street, located just north of the study area, is an east-west connector that averages 6,525 vehicles per day. South Park Avenue, located just south of the study area, is another east-west arterial that carries about 6,900 vehicles

per day. This street also serves as the primary access route to RiverBend. The current traffic volumes within the study area are generally consistent with those noted in the 2008 Redevelopment Plan.

The study area is well served by existing rail, and there are also several underutilized or abandoned rail corridors within the vicinity, which provides the opportunity to identify future land uses that may capitalize on these assets.

An extensive rail network is located along the western boundary of the study area, which includes a major switching yard that is shared by CSX and Norfolk Southern. This yard services a major corridor that crosses the Buffalo River via a single-track bridge west of South Park Avenue. The bridge acts as a bottleneck for rail transportation, as it can accommodate only one train at a time, which backs up other rail traffic until the bridge clears.

Transportation



To the north of the bridge, Norfolk Southern has a number of lines that branch off, with one continuing to the Bison Intermodal Yard in Cheektowaga and another paralleling Route 400 through West Seneca. The CSX line continues further north and east to the Kenmore Yard in Tonawanda and the Frontier Yard in Cheektowaga, as well branching off to cross the International Railroad Bridge into Canada.

Two short-line railroads have trackage rights and operate switching operations at the Buffalo Creek Yard. The Southern Buffalo Railroad operates 33 miles of track between the yard and Gowanda; while the Buffalo & Pittsburgh Railroad operates trains between the yard and Pittsburgh.

There is railroad siding off the main line track that extends to the east into the study area, south of Elk Street, which provides rail access to area industries such as PVS Chemi-

cals. The railroad bed extends beyond the PVS Chemical property, although the rails have been abandoned and would require improvements to resume service. Another abandoned line bisects the eastern portion of the study area; while the right-of-way is partially intact, the bridge over the Buffalo River has been removed. This corridor remains the proposed location for the Tift Street Arterial of the Southtowns Connector project.

Infrastructure The Buffalo Water Department serves the study area. A 48-inch transmission main runs along Perry Street from the northwestern boundary of the study area, then continues up to Elk Street, where it runs eastward to Bailey Avenue. The main distribution feed for the area is a 10-inch line that runs along Elk Street, which serves the majority of the study area.

The Buffalo Sewer Authority operates and maintains sanitary and storm sewers within the study area. Combined sewer flows are collected by a network of pipes ranging from 10- to 30-inches in diameter. This network directs flow to a 72-inch line that runs southerly along Babcock Street. At the intersection of Babcock and Prenatt, the line connects into a permitted combined sewer overflow (CSO). Flow from the CSO is directed to the interceptor along Orlando Street. During heavy rainfall events that produce high flow conditions, the CSO is relieved by a 6-foot by 6-foot concrete conduit that discharges directly to the Buffalo River. A flap gate on the outlet pipe prevents back flow or intrusion into the pipe from the River. This gate is located along the southeastern corner of the PVS Chemical property.

The South Buffalo Pumping Station is located at the southeast corner of the study area. This station pumps wastewater from areas in South Buffalo to large diameter interceptor pipes that are tributary to the city's South Interceptor. Flows from the interceptor are carried to BSA's wastewater treatment facility, which currently has excess capacity to service the study area.

Natural gas service is provided by National Fuel. The main feed for the study area is a 24-inch high pressure line that runs along Perry Street eastward to Dole Street where it turns south. The line runs south along Dole Street to Elk Street, where it turns east and continues past Bailey Avenue. Additional smaller lines of differing pressure branch out at various locations from the main high pressure line to service residential streets and surrounding industries.

Electric service is provided by National Grid. The company has a 115kV substation located at the northwest corner of Elk and Dole. Power is distributed through both overhead and underground distribution lines. Residential areas have mostly overhead service, while the remaining industrial areas have a mix of both overhead and underground lines.

Environmental conditions The study area has historically been the location of heavy industrial operations, primarily located south of Elk Street along the Buffalo River, utilizing the waterway for the transport of goods and raw materials. Industries included petroleum refining, metal production, chemical manufacturing, and waste disposal. As these

closed, many of the properties were left vacant or underutilized, with legacy contamination. As a result, elevated concentrations of pollutants have been identified in the soil, groundwater and river sediment.

South of Elk Street, a significant portion of the study area contains potential environmental hazards in the form of major oil storage facilities, hazardous waste sites, and brownfield properties. Buckeye Terminal is an active oil storage facility, and PVS Chemicals is classified as a chemical storage facility. Both of these operations increase the risk of soil and groundwater contamination. Other former industrial properties include Exxon-Mobil, Allied Chemical, and Buffalo Color Corporation.

The status of properties range from unknown contamination to those that have been investigated and remediated, or are undergoing long-term monitoring. Surface and subsurface contamination includes organic and inorganic constituents which have been detected above the restricted industrial soil cleanup objectives (SCOs). Some of these areas have been addressed and no further action is required; while others remain to be remediated.

Groundwater pumping systems are in place to address free-phase petroleum contamination and other contamination identified within the corridor. This engineering control was enacted to remove contamination and prevent flow and discharge to the adjacent Buffalo River. Existing water quality data indicates that deep aquifer groundwater quality did not require remediation. Limited sampling of sub-slab vapors indicated low levels of volatile organic compounds.

Although the majority of the study area is considered brownfield property, not all of it has been fully characterized. Absent known environmental contaminants on potential redevelopment properties, investigation will be required to identify and mitigate potential health hazards. Some areas may be subject to soil and fill management restrictions, residential use limitations, engineering controls, deed restrictions, or long-term monitoring requirements.

Redevelopment Scenario

The 2008 Elk Street Corridor Redevelopment Plan proposed three redevelopment scenarios. These considered a variety of factors, including market opportunities, availability and condition of infrastructure and utilities, access to major transportation routes, environmental conditions, current land uses and property conditions, and other planning level criteria.

Infill identifies properties for new business development, including opportunities for back-office uses on larger vacant parcels located south of Elk. Riverfront access is proposed via a new street east of Babcock. Two small retail sites were proposed at the intersection of Elk and the new roadway east of Babcock. New access roads were additionally proposed parallel to Elk and as an extension of Lee to improve access to the Buffalo Color properties.

Commercial/Industrial Park identifies 13 parcels for light industrial redevelopment. In this scenario, the foot of Babcock is proposed as public space to provide access to the river and serve as an amenity for the industrial park. Future commercial and retail development is identified in areas along Bailey and the proposed Tiff Street arterial. Finally, residential uses located north of Elk would be transitioned to non-residential uses.

Transportation Village capitalizes on the study area's access to transportation infrastructure, particularly sites with rail and water access. In this scenario, a 37-acre site south of Elk is designated for large-scale distribution, while other properties were identified for back office and light industrial development opportunities. This development scenario proposes new roadways and repurposing of some existing paper roads located within the study area.

2008 Redevelopment Plan



The three scenarios were presented to stakeholders, and a final redevelopment plan was prepared that incorporated elements from each scenario. Subsequent to this effort, the Buffalo Billion Plan was developed by the Western New York Regional Economic Development Council. The plan carefully evaluates the region's assets and economic dynamics, which serve as the foundation for strategies to accelerate growth in manufacturing, the health/life sciences, and tourism. The signature project is the High-Tech Manufacturing and Innovation Hub at RiverBend, which will be home to SolarCity. The RiverBend site, which is located across the Buffalo River from the study area, is a critical consideration for the Elk Street Corridor planning process due to its proximity and potential future demand.

As a result of these changing conditions and recent investments, the BOA consultant team looked at potential revisions to the 2008 Redevelopment Plan. Based on input

from the steering committee, stakeholders, and the general public, the updated scenario establishes the study area as a mix of industrial and commercial uses.

Guided by the city's Unified Development Ordinance, zoning for the study area falls into four designations: D-C (flex commercial), D-IL (light industrial), D-IH (heavy industrial), and D-OG (open space). Most properties remain zoned for heavy industrial use, which reflects current and historic patterns and the limited potential for remediating these sites to accommodate more intensive uses. Light industrial uses are targeted for areas north of Elk Street, some of which are currently in residential use, but most of which are vacant.

Zoning



Elk, Babcock, and Lee streets would serve as primary access points for redevelopment sites. Reestablishing Babcock Street helps create an axis for the area, opens up large tracts of land south of Elk Street for redevelopment, reconnects the study area to residential neighborhoods that have been cut-off by I-190, and facilitates public access to the Buffalo River.

The conversion of Elk to two-way traffic between the I-190 ramp and Bailey is also important. This one-way stretch negatively impacts accessibility to businesses in the area, as highway traffic that exits at Bailey cannot travel west on Elk. This results in circuitous routes that can be confusing and add travel time and distance. Finally, the preferred alternative preserves right-of-way so that the Southtowns Connector can be constructed if the need arises.

Proposed redevelopment uses are envisioned to evolve over the long-term and to work in harmony with public realm improvements. As a result of its proximity to River-Bend, the Elk Street Corridor has the potential to develop with complementary uses. The area surrounding the intersection of Elk and Babcock consists of parcels that are approximately 6 to 10 acres in size. Frontages along streets should be lined with buildings, with parking located at the interior of parcels and hidden from the public realm.

Lands south of Elk are envisioned to be used for a mix of light and heavy industry, along with the continuing operation of legacy employers such as PVS Chemicals and Buckeye Terminal. These uses will follow similar design standards, with buildings developed with zero setback and parking hidden within the interior of blocks. This arrange-

Elk Street Site Plan



ment will provide a uniform fabric through the Elk Street Corridor, as well as promote good design standards that will help with its rebranding.

A small area along Bailey north of Elk is designated as flex commercial. Traffic counts here may be high enough to eventually attract retail uses. Buildings should be developed with zero setbacks to encourage a pedestrian environment. Any off-street parking should be located within the interior of blocks and hidden from the public realm.

North of Elk Street between Honeywell and Austin Air, lands are designated for small-scale, light industrial uses such as small tool and die operations, warehousing, and distribution. The existing residential neighborhood has been designated to allow a long-term transition to light industrial uses.

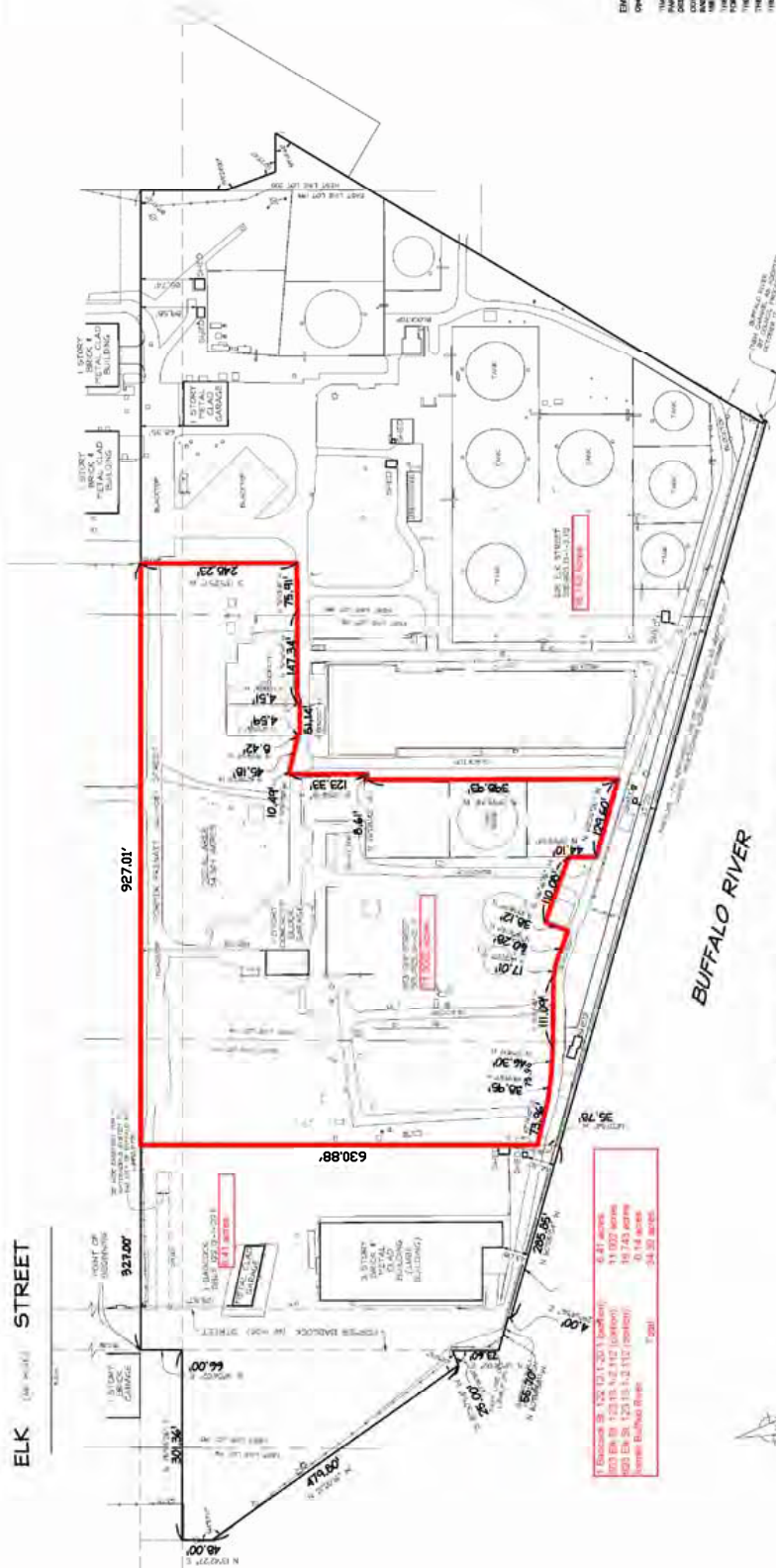
A small waterfront park is provided at the foot of Babcock Street. The park link up with waterfront trails that circulate through the study area. In line with Babcock Street, a pedestrian and bicycle bridge could be constructed to provide access to the RiverBend site. The ultimate ownership of this parkland must be determined to ensure proper long-term maintenance and protection of the area.

Immediately east of the proposed park is additional open space that would have restricted access and be designated primarily for stormwater retention, remediation facilities for Exxon-Mobil, and ecological restoration. Public open space along the river is also provided at the far eastern and western edges of the designated study area – around the perimeter of the BSA lands on Bailey and on the remediated Red Jacket peninsula, known as Area D.

Elk Street Conceptual Rendering



Exhibit 3



THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 38 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 825 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV

ENVIRONMENTAL EASEMENT LEGAL DESCRIPTION
 Coordinates: 144 21 23.228

THAT TRACT DESCRIBED AS LOTS 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848

Exhibit 4

Elk Street Solar Site

Groundwater Pumping
Network

Buffalo River

Buffalo River

Babcock St

Aerial

United States · NY · Erie Co. · Seneca Babcock

25 m

100 feet

© Vexcel Imaging, © 2020 TomTom

Elk Street Solar - Typical ballast, rack, and panel details

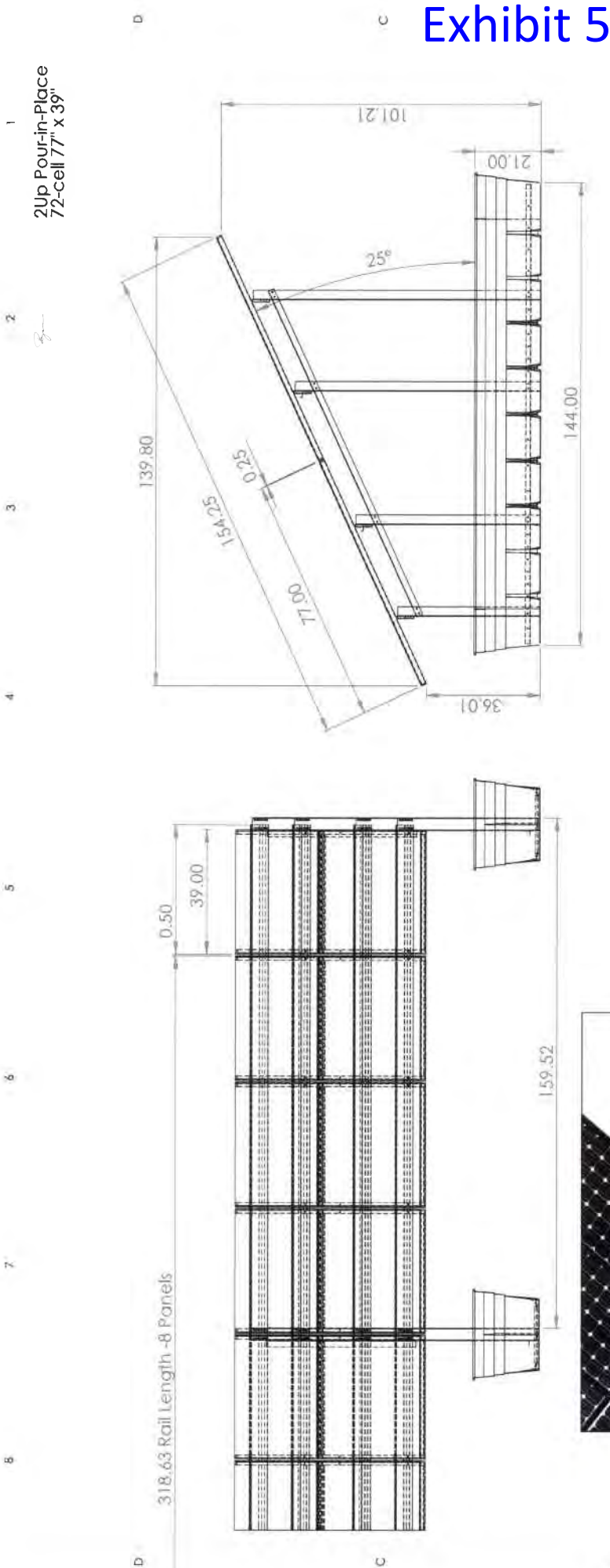


Exhibit 5



NAME DATE

TITLE:

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/64
DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.001
Q.A.
INTERPRET GEOMETRIC
TOLERANCING PER:
MATERIAL
FINISH
USED ON
APPLICATION

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS
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SIZE DWG NO REV
B GCPIP2-25
SCALE: 1:30 WEIGHT: SHEET 1 OF 1

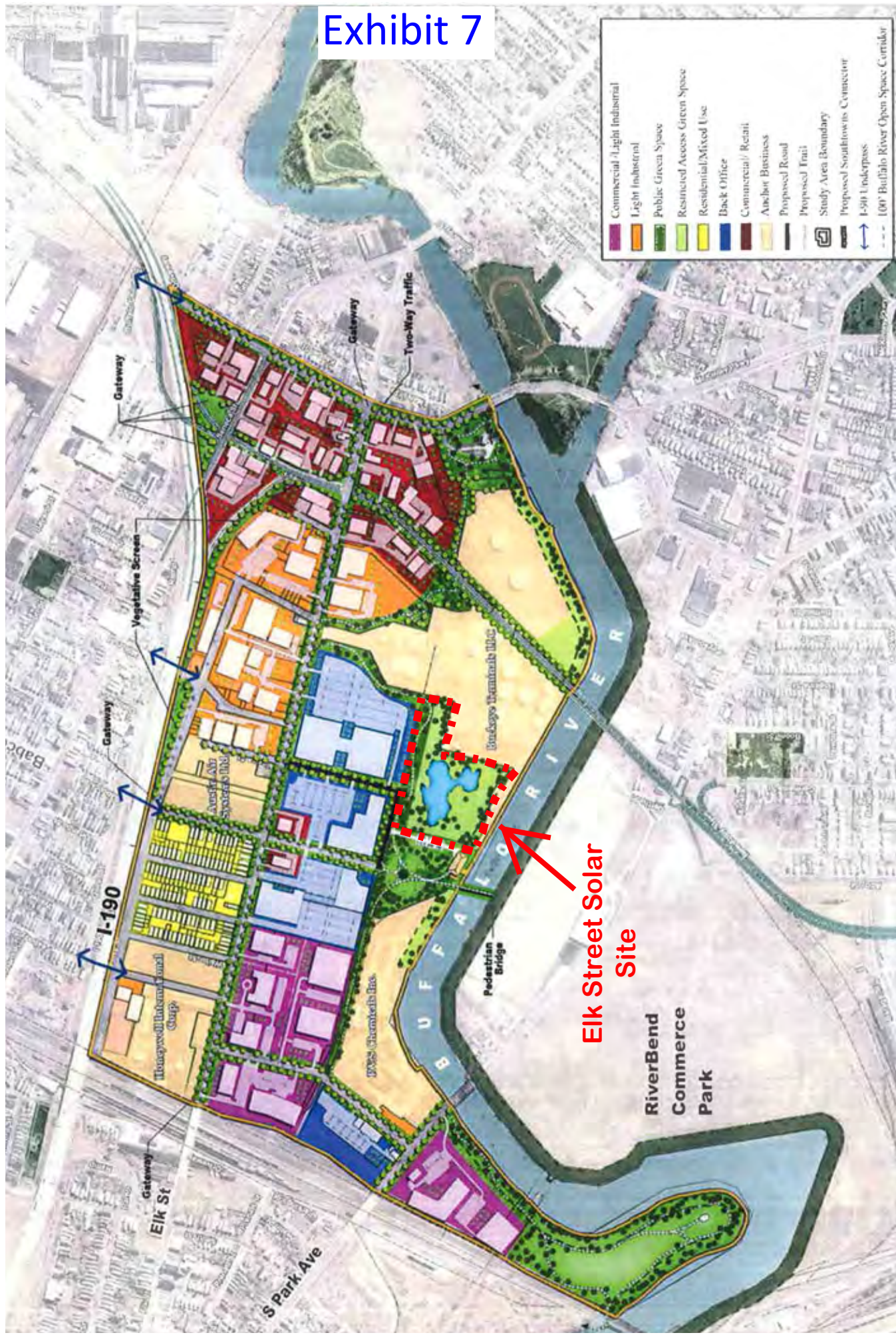


Exhibit 8

Land Use

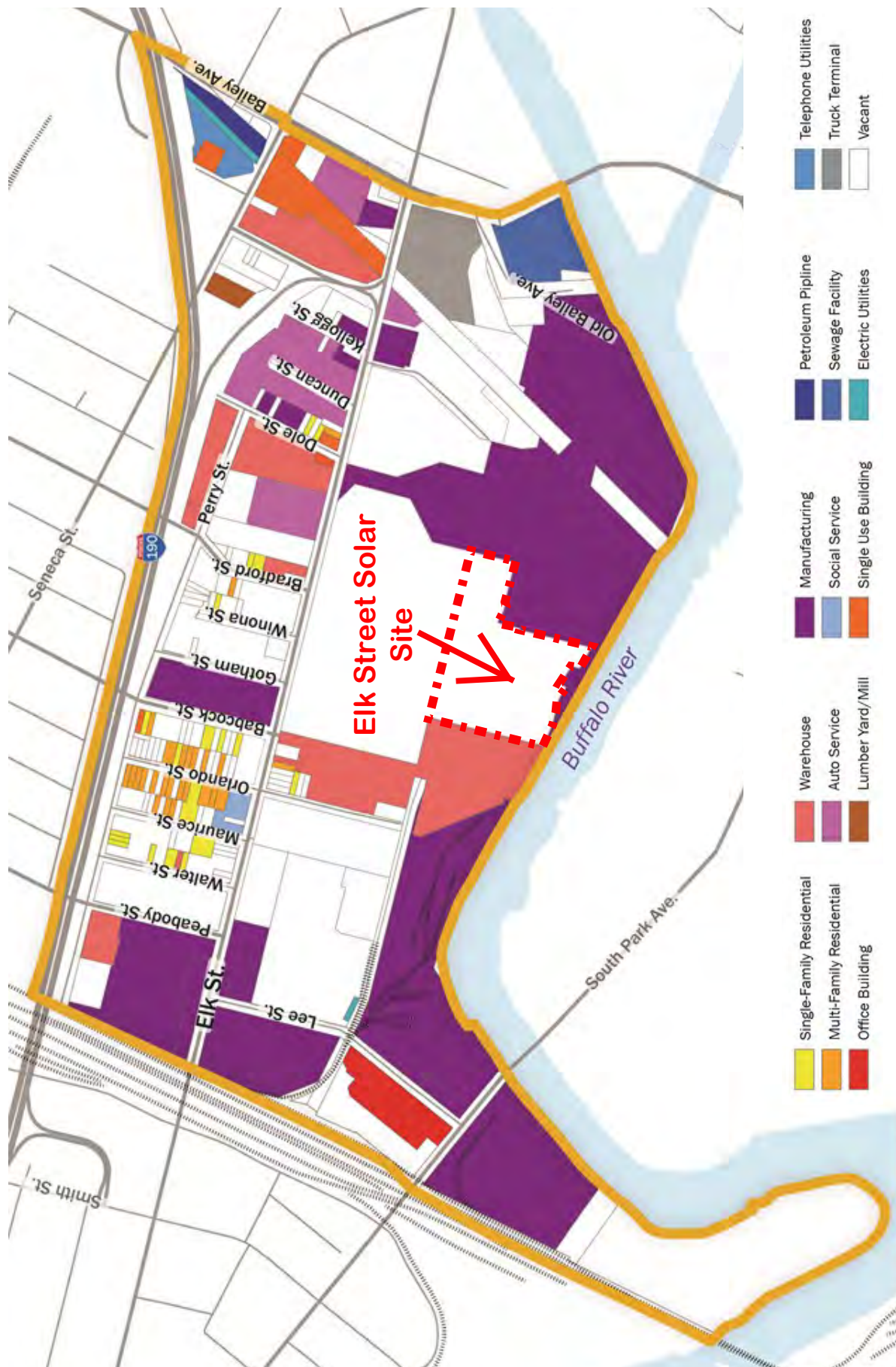


Exhibit 9



BUFFALO greencode

Unified Development Ordinance

PREPARED FOR
THE CITY OF BUFFALO
MAYOR'S OFFICE OF STRATEGIC PLANNING
MAYOR BYRON W. BROWN
DECEMBER 2016



PRODUCED BY:

camiros

PROJECT CONSULTANTS:

camiros

with:

Code Studio,

Fisher Associates, and

The Urban Design Project



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G. Delaware Avenue and North Street Exceptions.

The use of a property as a residential care facility, lodge/private club, funeral services facility, medical clinic, or professional office is allowed by right on any parcel which abuts North Street, between Main Street and Symphony Circle, and Delaware Avenue, between North Street and Gates Circle, irrespective of the limitations of Table 6A: Principal Uses.

H. Industrial/Non-Industrial Land Use Compatibility

1. This section is intended to ensure a wide range of industrial land uses, encourage employment opportunities, limit the encroachment of incompatible uses into areas adjacent to lands zoned for heavy industrial use, and protect other uses from the impacts and hazards which could result if such uses were established near areas zoned for heavy industrial use.

2. Any use that occupies any portion of a parcel that is located within 500 feet of a D-IH zone and that is not listed below, but is otherwise allowed by right or with a special use permit per Table 6A, requires a special use permit subject to the additional approval criteria of this section.

- a. Dwelling, caretaker.
- b. Public safety facility.
- c. Vehicle repair, major.
- d. Industrial, artisan, light, and heavy.
- e. Recycling facility.
- f. Research/laboratory facility.
- g. Storage yard.
- h. Warehouse/distribution.
- i. Freight terminal.
- j. Railway facilities.
- k. Truck stop.

l. District energy system.

m. Solar farm.

n. Utilities and services, major and minor.

o. Wind farm.

p. Wireless communications.

3. A special use permit for a project which includes a use other than those uses listed above, may be granted only where the use is found to be consistent with the general criteria of Section 11.3.3 and the following additional criteria:

- a. The proposed use will avoid, minimize, or offset any potential adverse impact upon, or conflict with the operations of, adjacent industrial uses.
- b. The proposed use will not reasonably be expected to increase the risk or danger to life or property due to the proximity to adjacent industrial uses.
- c. The proposed use will be screened and buffered, where necessary, to mitigate against any potential impact upon site users due to the proximity of adjacent industrial uses, including, but not limited to, noise, heat, glare, dust, smoke, fumes, odors, and vibration.
- d. The proposed use will be served by, or provide, safe and adequate access to and within the site for pedestrians, cyclists, transit riders, the mobility impaired, and motorists.
- e. The proposed use will be established, maintained, and operated so as to avoid, minimize, or offset any potential conflicts with adjacent industrial uses due to traffic congestion, dangerous traffic movements, or interference with the safe and efficient movement of freight.

l. All uses must meet any applicable federal, state, and local requirements, including, but not limited



Property: 503 ELK, Buffalo, 14210
SWIS: 140200 SBL: 123.13-1-2.111

Assessment	
Total	\$264,600.00
Total Land	\$264,600.00
County Taxable (Erie)	\$264,600.00
Town Taxable	\$264,600.00
School Taxable	\$264,600.00
Village Taxable	\$0.00
Equalization Rate	88.5%
Level of Assessment	88.5%
Full Market Value	\$298,983.05

Structure	
Site 1 of 1	
Building 1 of 0	
Section 1 of 0	
Boeck # - Description	-
Construction Quality	
Gross Floor Area	
Number of Stories	
Story Height	
Year Built / Effective Year Built	/
Condition	-
Building Perimeter	
Basement Perimeter	
Basement SQFT	
Number of Elevators	
Air Conditioning %	
Sprinkler %	

Property Description	
Type	Vacant Land
Use	340 - Vacant indus
Ownership Code	-
Zoning	D-IH
Road Type	-
Water Supply	3 - Comm/public
Utilities	4 - Gas & elec
School District	Buffalo School - 140200
Neighborhood Code	8300
Census Tract	
Council	

Last Property Sale	
Sale Date	6/14/2018 8:50:45 AM
Sale Price	\$350,000.00
Useable Sale	YES
Arms Length	YES
Prior Owner Name	ExxonMobil Oil Corporation,
Deed Book	11330
Deed Page	6069
Deed Date	6/18/2018

Improvements						
Site #	Description	Quantity	Condition	Year Built	SQFT	Dimensions
No Improvements						

Land						
Site #	Land Type	Acres	Front	Depth	SQFT	Soil Rating

1	01 - Primary	33.49	0	0	1458824	Land: 1 Rating:
---	--------------	-------	---	---	---------	-----------------

Owner Information					
Owner Name	Address 1	Address 2	Unit Name	Unit Number	City/State/Zip
Elk Street Commerce Park LLC,	4 Centre Dr				Orchard Park NY 14127

Exemptions				
Code Description	Amount	Exemption %	Start Year	End Year
No Exemptions				

Special Districts				
Code Description	Type	Primary Units	Secondary Units	Amount
SEWER - Sewer	A	0	0	\$264,600.00

Exhibit 10 - Final Decision Document

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau E

625 Broadway, 12th Floor, Albany, NY 12233-7017

P: (518) 402-9813 | F: (518) 402-9819

www.dec.ny.gov

April 20, 2018

Mr. Paul Neureuter
Elk Street Commerce Park, LLC/The Krog Group
4 Centre Drive
Orchard Park, New York 14127

RE: ExxonMobil Former Buffalo Refinery OU-3 Site
Site ID No. C915201D, City of Buffalo, Erie County
Remedial Alternative Analysis & Decision Document

Dear Mr. Neureuter:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Investigation – Alternative Analysis Report (RI-AAR) for the ExxonMobil Former Buffalo Refinery OU-3 Site dated April 2018. The RI-AAR is hereby approved. Please ensure that a copy of the approved RI-AAR is placed in the document repository.

Enclosed is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository.

Please contact the Department's Project Manager, Eugene Melnyk, P.E., at 716-851-7220 or eugene.melnyk@dec.ny.gov at your earliest convenience to discuss next steps. Please recall the Department requires seven days' notice prior to the start of field work.

Sincerely,



Michael J. Cruden, P.E.
Director
Remedial Bureau E
Division of Environmental Remediation

Enclosure

cc: M. Ryan - NYSDEC
C. Staniszewski/E. Melnyk/J. Dougherty – Region 9, NYSDEC
K. Anders/C. Bethoney/R. Jones - NYSDOH
E. Zinkewicz – ExxonMobil Environmental; elizabeth.e.zinkevycz@exxonmobil.com
P. Pontoriero – Wood PC; pat.pontoriero@woodplc.com



Department of
Environmental
Conservation

DECISION DOCUMENT

ExxonMobil Oil Former Buffalo Terminal OU-3
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915201D
April 2018



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

ExxonMobil Oil Former Buffalo Terminal OU-3
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915201D
April 2018

Statement of Purpose and Basis

This document presents the remedy for the ExxonMobil Oil Former Buffalo Terminal OU-3 site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the ExxonMobil Oil Former Buffalo Terminal OU-3 site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. REMEDIAL DESIGN

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remediation program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. DEMOLITION

Demolition of a former pump house structure and abandoned aboveground process piping in

specific areas of OU-3 that were not previously removed. The pipe will be removed, drained of contents and removed from the site for either proper disposal or recycling. Also, unnecessary above ground protrusions, and abandoned tank and structure foundations encountered during site preparation will be removed and processed during the execution of the site preparation phase. The existing well point system and appurtenances will also be removed. Concrete materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

3. EXCAVATION

Excavation and off-site disposal of contaminant source areas, including:

- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(a)(1). Specifically, this applies to a limited shallow excavation outside the proposed hydraulic containment barrier (see discussion below) on the western end of OU-3. Approximately 100 cubic yards of contaminated soil that potentially exceeds hazardous waste criteria will be removed from the site for offsite disposal.

4. BACKFILL

On-site soil which does not exceed the above excavation criteria, or is considered grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u), may be used below the cover system described in remedy element 8 to backfill the excavation.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use will be brought in to complete backfilling of the excavation, as necessary, and establish the designed grades at the site.

The site will be re-graded to accommodate installation of a cover system as described in remedy element 8.

5. IN-SITU STABILIZATION

In-situ stabilization (ISS) will be implemented on soil grossly contaminated with petroleum, as defined in 6 NYCRR Part 375 1.2(u), in a limited area near the western end of OU-3 that is situated outside the proposed hydraulic containment remedy discussed remedial element 6. ISS is a process that uses a stabilizing agent which chemically changes contamination to make it less soluble. The contaminated soil will be mixed in place with stabilizing agents, such as Portland cement, using an excavator or augers. The stabilized soil will then be covered with a cover system as described in remedial element 8 to prevent direct exposure. This treatment changes/reduces the gross characteristics of the petroleum contaminated soil (i.e., odors, sheen, photoionization detector readings, etc.) and eliminate the matrix as a source of groundwater contamination.

6. HYDRAULIC CONTAINMENT

Hydraulic containment of groundwater and petroleum non-aqueous phase liquid (NAPL) to minimize groundwater migration from the site will be accomplished by installing interconnected vertical groundwater barriers. Cement bentonite slurry walls will be installed along the eastern and western borders of the site with a sealed steel bulkhead wall facing the Buffalo River. The cement bentonite slurry walls will extend a minimum of three feet into the low permeability clay layer that underlies the site, and the steel bulkhead will extend down to bedrock below the low

permeability clay layer at the site. The western cement bentonite slurry wall will tie into the stabilized soil at the perimeter of OU-2 East (BCP Site C915201B) which extends into the low permeability clay layer along the up-gradient areas of the site. The eastern cement bentonite slurry wall will tie into the soil bentonite slurry wall installed along the western end of OU-4 (BCP Site C915201E). The cement bentonite slurry will be a minimum of two feet wide and will achieve an effective hydraulic conductivity of 1×10^{-7} centimeters/second (cm/sec). Due to constructability issues, a small section of the cement bentonite wall will be constructed by jet grouting and will achieve an effective hydraulic conductivity of 1×10^{-6} cm/sec. The sealed steel bulkhead will be constructed with interlocking steel sheet piles and steel king piles. The interlocking joints between the steel piles will be sealed with an interlock sealant.

7. GROUNDWATER EXTRACTION AND TREATMENT

The existing well point system installed along the Buffalo River for groundwater extraction will be decommissioned and a new groundwater extraction system will be implemented for continued removal of petroleum NAPL in groundwater and to maintain a hydraulic gradient into the containment system. The groundwater extraction system will operate in conjunction with the hydraulic control barrier system discussed in Paragraph 6 to prevent the off-site migration of contaminants. The groundwater extraction system will consist of six new groundwater extraction wells. The extraction wells will be designed and installed so that the capture zone is sufficient to cover the areal and vertical extent of the site that contains separate phase petroleum adjacent to the Buffalo River and maintain an inward gradient within the hydraulic containment area. The extraction system will create a depression in the water table so that contaminated groundwater and separate phase petroleum is directed toward the extraction wells within the plume area.

The extracted groundwater will be processed through the existing groundwater treatment system at the site to remove petroleum NAPL and treat contaminated groundwater by oil/water separation and air sparging to strip away contaminants from the water. The groundwater will be discharged to the local publicly owned treatment works. The exhaust air is treated using activated carbon technology.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

8. COVER SYSTEM

A site cover will be required to allow for commercial and industrial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

Further, to reduce the infiltration of precipitation and thus limit the volume of groundwater requiring extraction and treatment, a low permeability cover will be required within the hydraulic containment area of OU-3 discussed in paragraph 7. This will be accomplished by installing low permeability covers consisting of either new pavement, rehabilitated pavement or low permeable geosynthetic liners covered with the required minimum 1-foot of cover soil.

9. ENGINEERING AND INSTITUTIONAL CONTROLS

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 commercial cleanup at a minimum and will include an environmental easement and site management plan as described below.

Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

10. SITE MANAGEMENT PLAN

A Site Management Plan, which includes the following:

- a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The environmental easement discussed in Paragraph 9 above.

Engineering Controls: The hydraulic containment system discussed in Paragraph 6, the groundwater extraction system discussed in Paragraph 7 and the site cover discussed in Paragraph 8.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any existing and new buildings on the site, including provision for implementing actions recommended

- to address exposures related to soil vapor intrusion;
 - provisions for the management and inspection of the identified engineering controls;
 - a provision that should an existing or future building or building foundation be demolished in the future, a cover system consistent with that described in Paragraph 8 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable SCOs;
 - provisions for the management and inspection of the identified engineering controls;
 - maintaining site access controls and Department notification; and
 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater to assess the performance and effectiveness of the remedy; and
 - a schedule of monitoring and frequency of submittals to the Department, and
 - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- procedures for operating and maintaining the remedy;
 - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
 - maintaining site access controls and Department notification; and
 - providing the Department access to the site and O&M records.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

ExxonMobil Oil Former Buffalo Terminal OU-3
Buffalo, Erie County
Site No. C915201D
April 2018

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Valley Community Center
93 Leddy Street
Buffalo, NY 14210
Phone: 716-823-4707

Buffalo and Erie County Public Library
1 Lafayette Square
Buffalo, NY 14203
Phone: 716-858-8900

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The site is located in an urban area off of Elk Street in the City of Buffalo. The site is bordered on the north by Prenatt Street (a paper street) and mostly vacant property (ExxonMobil Operable Unit (OU)-2 East and OU-2 West); on the east by a commercial business and major oil storage facility (ExxonMobil OU-4 eastern tank yard area); and on the west by a chemical manufacturing plant and south by the Buffalo River.

Site Features:

This site is located within the footprint of a larger former ExxonMobil petroleum refining facility. The larger former refinery and storage facility (previously defined as BCP site C915201) was segregated into five smaller individual BCP sites/operable units (OUs) for remediation and redevelopment purposes. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. The five BCP sites include: OU-1 (BCP Site 915201), OU-2 East (BCP Site C915201B), OU-2 West (BCP Site 915201C), OU-3 (BCP Site C915201D) and OU-4 (BCP Site C915201E). The OU-3 site, the subject of this Decision Document, is 34.3 acres in size and is comprised of three separate parcels owned by differing entities as follows:

- a 16.7 acre parcel owned by Buckeye Terminal Inc. that contains a major oil storage facility (MOSF) and petroleum distribution terminal. This parcel occupies the eastern end of the site. The MOSF includes multiple large above ground petroleum storage tanks;
- a 10.9 acre mostly vacant parcel retained by ExxonMobil in the central area of the site that contains a small building for the existing groundwater treatment system; and
- a 6.8 acre parcel on the western end of the site owned by a construction company that contains an occupied building (Bldg. 135) for office use and storage, and a yard area for equipment and material storage.

The ground surface is relatively flat. An inactive northeasterly-trending railroad right-of-way separates Buckeye's eastern tank yard area (OU-4) from the OU-3. The area bordering the Buffalo River was improved with a wood and concrete bulkhead for marine commercial access to the river. A well point system (WPS) is situated near the river bulkhead to intercept and collect separate phase petroleum from the site.

Current Zoning and Land Use:

The entire site is currently zoned industrial and is generally surrounded by a mixture of industrial and commercial properties. There are a few isolated residential parcels located north of Elk Street.

Past Use of the Site:

The site is a portion of a larger former petroleum refinery facility. Since the 1880s, the site has been used for petroleum refining and storage. Refining operations terminated in the 1980s. Former refinery, lubricant production and terminal activities have impacted this site.

Site Geology and Hydrogeology:

Three unconsolidated deposits exist throughout the majority of the site including a fill layer (cinders, ash, slag, sand, brick, concrete, etc.) ranging in thickness from 5 to 10 feet, underlain by an alluvial deposit layer consisting of silt, sands, gravel and clay 5 to 20 feet in thickness, and a glacio-lacustrine clay layer that acts as a confining layer. Depth to clay is approximately 10 to 20 feet below ground surface.

Groundwater is approximately 3 to 20 feet below ground surface and generally flows southwest toward the Buffalo River. Groundwater gradient is influenced to a limited degree by the WPS.

A site location map is attached as Figures 1 and 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives that restrict the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicants under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary. The only potential off-site impacts are being investigated and remediated, if necessary, under NYSDEC Spill No. 1705188; accordingly, enforcement actions are not necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- air
- groundwater
- soil
- soil vapor
- crawl space air

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants

of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminants of concern identified at this site are:

petroleum products	cadmium
1,2,4-trimethylbenzene	lead
1,3,5-trimethylbenzene	mercury
benzene	arsenic
ethylbenzene	chrysene
toluene	pyrene
xylene (mixed)	barium
isopropylbenzene	fluorene
n-propylbenzene	naphthalene
benzo(a)anthracene	phenanthrene
benzo(a)pyrene	anthracene
benzo(b)fluoranthene	fluoranthene
dibenz[a,h]anthracene	benzo[k]fluoranthene
indeno(1,2,3-CD) pyrene	chromium

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

The primary sources of contamination in OU-3 are the historical petroleum refining, storage and distribution operations that have taken place across the majority of the site since the late 1800s. Volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals are present in the soil at shallow and deep intervals, often exceeding one or more of the criteria across OU-3.

Due to common historic operation and ownership of adjoining areas, the OU-2 East (C915201B), OU-2 West (C915201C) and OU-4 (C915201E) sites have similar petroleum contaminants in soil and groundwater. These areas are being evaluated and remediated under respective site brownfield remediation programs.

SOIL:

Petroleum Impacted Soil: Petroleum impacted soil is widespread throughout OU-3. Black staining, petroleum odor, and elevated PID readings were observed in multiple soil borings from grade to the bottom of the boring in OU-3 during previous investigations. The petroleum contaminated soil in these areas meets the definition of grossly contaminated media.

Surface/Near Surface Soil:

The surface (0-0.5 feet) and near surface (0.5-2 feet) soil/fill interval was sampled for metals, VOCs, SVOCs, polychlorinated biphenyls (PCBs) and pesticides/herbicides.

VOC exceedances for commercial use soil cleanup objectives (CSCOs) in the surface soil interval occurred at one sample location only for 1,2,4-trimethylbenzene (400 milligrams per kilogram or parts per million (ppm)/190 ppm CSCO). VOC CSCO exceedances in the near surface soil interval include: 1,2,4-trimethylbenzene (up to 1,200 ppm/190 ppm CSCO), 1,3,5-trimethylbenzene (up to 470 ppm/190 ppm CSCO), benzene (up to 48 ppm/44 ppm CSCO), ethylbenzene (up to 530 ppm/390 ppm CSCO), toluene up to 790 ppm/500 ppm CSCO, and total xylenes (up to 1,700 ppm/500 ppm CSCO).

SVOC CSCO exceedances in the surface soil interval include: benzo[a]anthracene (up to 25 ppm/5.6 ppm CSCO), benzo[a]pyrene (up to 53 ppm/1.0 ppm CSCO), benzo[b]fluoranthene (up to 25 ppm/5.6 ppm CSCO), dibenz[a,h]anthracene (up to 14 ppm/0.56 ppm CSCO), and indeno[1,2,3-cd]pyrene (up to 15 ppm/5.6 ppm CSCO). SVOC CSCO exceedances in the near surface soil interval include: benzo[a]anthracene (up to 26 ppm/5.6 ppm CSCO), benzo[a]pyrene (up to 22 ppm/1.0 ppm CSCO), benzo[b]fluoranthene (up to 33 ppm/5.6 ppm CSCO), dibenz[a,h]anthracene (up to 2.6 ppm/0.56 ppm CSCO), and indeno[1,2,3-cd]pyrene (up to 8.6 ppm/5.6 ppm CSCO).

Metal exceedances varied throughout OU-3. Metal CSCO exceedances in the surface interval include: cadmium (up to 24.8 ppm/9.3 ppm CSCO), lead (up to 99,000 ppm/1000 ppm CSCO); mercury (up to 26 ppm/2.8 ppm CSCO). Metal CSCO exceedances in the near surface interval include the following: arsenic (up to 30.3 ppm/16 ppm CSCO) cadmium (up to 10.4 ppm/9.3 ppm CSCO), lead (up to 11,200 ppm/1000 ppm CSCO); mercury (up to 111 ppm/2.8 ppm CSCO).

PCBs and pesticides/herbicides did not exceed CSCOs in surface or near surface soil at the site.

Subsurface Soil/Deep Interval:

Subsurface soil/fill up to 20 feet below ground surface (fbgs), was sampled for metals, VOCs, SVOCs, PCBs and pesticides/herbicides.

VOC CSCO exceedances in the deep interval include the following: 1,2,4-trimethylbenzene (up to 470 ppm/190 ppm) and total xylenes (up to 1,700 ppm/500 ppm).

SVOC exceedances in the deep interval above the CSCOs include the following: benzo[a]anthracene (up to 960 ppm/5.6 ppm CSCO), benzo[a]pyrene (up to 1,600 ppm/1.0 ppm CSCO), benzo[b]fluoranthene (up to 430 ppm/5.6 ppm CSCO), chrysene (up to 1,400 ppm/56 ppm CSCO), dibenz[a,h]anthracene (up to 220 ppm/0.56 ppm CSCO), indeno[1,2,3-cd]pyrene (up to 170 ppm/5.6 ppm CSCO), and pyrene (up to 1,400 ppm/500 ppm CSCO).

Metal CSCO exceedances in the deep interval include: arsenic (up to 54.5ppm/16 ppm CSCO), barium (up to 2160 ppm/590 ppm CSCO), copper (up to 236,000 ppm/270 ppm CSCO), and lead (up to 111,000 ppm/1000 ppm CSCO).

PCBs, pesticides and herbicides did not exceed the CSCO criteria.

Off-site impacts to soil from contaminants that have migrated from this site were not identified, except on the adjacent BCP sites as noted above. Potential off-site impacts to near shore sediments in the Buffalo River are being handled under NYSDEC Spill No. 1705188.

GROUNDWATER:

Separate-phase petroleum product, identified as a sheen and/or as a layer of product floating on the groundwater, exists across the majority of the eastern and central portion of OU3. Historically, the separate-phase product within OU-3 has resulted in sheens within the Buffalo River. The WPS provides hydraulic control of separate-phase product, limiting the seepage of product into the Buffalo River.

VOCs: The concentrations of VOCs and SVOCs are lower along the up-gradient (or northern) portion of the site and higher towards the southern border of the site. VOC groundwater contaminants that exceed NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGV) for Class GA groundwater include benzene up to 1,030 micrograms per liter (ug/l or ppb) (1 ppb); toluene up to 23 ppb (5 ppb); ethylbenzene up to 44 ppb (5 ppb); xylenes (total) up to 148 ppm (5 ppb); 1,2,4-trimethylbenzene up to 22.2 ppb (5 ppb); 1,3,5-trimethylbenzene up to 16.8 ppb (5 ppb); isopropylbenzene up to 33.3 ppm (5 ppb); and n-propylbenzene up to 62.5 ppb (5 ppb).

SVOCs: SVOCs above AWQSGV include: benzo[b]fluoranthene at 2.7 ppb (0.002 ppb), benzo[k]fluoranthene at 2.3 ppb (0.002 ppb), naphthalene 3,900 ppb (10 ppb), acenaphthene up to 36 ppb (20 ppb), chrysene up to 530 ppb (0.002), fluorene up to 760 ppb (50 ppb), phenanthrene up to 3,400 ppb (50 ppb), pyrene up to 1,400 ppb (50 ppb), anthracene up to 540 ppb (50 ppb) and flouranthene up to 1,900 ppb (50 ppb).

Metals: The AWQSGV were exceeded for the following metals including: cadmium up to 0.0718 ppm (0.005 ppm), chromium up to 2.21 ppm (0.05 ppm), lead up to 929 ppm (0.025 ppm), manganese up to 3.1 ppm (0.3 ppm), mercury up to 0.0905 ppm (0.0007 ppm), nickel up to 3.49 ppm (0.10 ppm), and selenium up to 0.207 ppm (0.01 ppm).

Off-site impacts to groundwater from contaminants that have migrated from this site were not identified, except on the two adjacent BCP sites as noted above.

SOIL VAPOR, CRAWL SPACE VAPOR AND INDOOR AIR

Exterior soil vapor and crawl space air sampling was conducted during several sampling events in 2008, 2009 and 2013. Building 135 is the only occupied building situated in OU-3 and is constructed with a crawl space foundation with the ground floor constructed of concrete above the crawl space. Air from the crawl space below the ground floor was sampled. No indoor air sampling was performed. The 2009 crawl space air sample results revealed trace levels of petroleum constituents. Since the building is located in an area where separate phase petroleum has been observed, soil vapor samples collected adjacent to the building detected petroleum related compounds including benzene up to 26,520 micrograms per cubic meter (ug/m), hexane up to 38,770 ug/m , and 2,2,4-trimethylpentane up 144,830 ug/m . A soil vapor sample situated in the central part of the site near former and current storage tanks revealed benzene up to 58,000 ug/m , ethylbenzene up to 8,700 ug/m , hexane up to 6,000,000 ug/m , cyclohexane up 2,500,000 ug/m , heptane up 860,000 ug/m and 2,2,4-trimethylpentane up 3,100,000 ug/m . The soil vapor samples adjacent to Building 135 also detected methane ranging from 160,528 parts per million per volume (ppmv) to 412,500 ppmv (12,500 ppmv lower explosive level). Methane in the building crawl space was detected at 1.62 ppmv.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains its water from a source not affected by site contamination. The site is fenced on three sides and the Buffalo River, on the fourth side, thus restricting public access. Persons who enter the site can contact contaminants in the soil or groundwater by walking on the site, digging below the surface, or otherwise disturbing the soil. Volatile organic compounds in soil vapor (air spaces within the soil), may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Sampling identified the potential for impacts to indoor air quality in the existing on-site building and additional evaluation of the indoor air quality is needed.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4 commercial use cleanup remedy.

The elements of the selected remedy, as shown in Figure 3, are as follows:

1. REMEDIAL DESIGN

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remediation program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;

- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. DEMOLITION

Demolition of a former pump house structure and abandoned aboveground process piping in specific areas of OU-3 that were not previously removed. The pipe will be removed, drained of contents and removed from the site for either proper disposal or recycling. Also, unnecessary above ground protrusions, and abandoned tank and structure foundations encountered during site preparation will be removed and processed during the execution of the site preparation phase. The existing well point system and appurtenances will also be removed. Concrete materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

3. EXCAVATION

Excavation and off-site disposal of contaminant source areas, including:

- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1). Specifically, this applies to a limited shallow excavation outside the proposed hydraulic containment barrier (see discussion below) on the western end of OU-3. Approximately 100 cubic yards of contaminated soil that potentially exceeds hazardous waste criteria will be removed from the site for offsite disposal.

4. BACKFILL

On-site soil which does not exceed the above excavation criteria, or is considered grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u), may be used below the cover system described in remedy element 8 to backfill the excavation.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use will be brought in to complete backfilling of the excavation, as necessary, and establish the designed grades at the site.

The site will be re-graded to accommodate installation of a cover system as described in remedy element 8.

5. IN-SITU STABILIZATION

In-situ stabilization (ISS) will be implemented on soil grossly contaminated with petroleum, as defined in 6 NYCRR Part 375 1.2(u), in a limited area near the western end of OU-3 that is situated outside the proposed hydraulic containment remedy discussed in remedial element 6. ISS is a process that uses a stabilizing agent which chemically changes contamination to make it less soluble. The contaminated soil will be mixed in place with stabilizing agents, such as Portland cement, using an excavator or augers. The stabilized soil will then be covered with a cover system as described in remedial element 8 to prevent direct exposure. This treatment

changes/reduces the gross characteristics of the petroleum contaminated soil (i.e., odors, sheen, photoionization detector readings, etc.) and eliminate the matrix as a source of groundwater contamination.

6. HYDRAULIC CONTAINMENT

Hydraulic containment of groundwater and petroleum non-aqueous phase liquid (NAPL) to minimize groundwater migration from the site will be accomplished by installing interconnected vertical groundwater barriers. Cement bentonite slurry walls will be installed along the eastern and western borders of the site with a sealed steel bulkhead wall facing the Buffalo River. The cement bentonite slurry walls will extend a minimum of three feet into the low permeability clay layer that underlies the site, and the steel bulkhead will extend down to bedrock below the low permeability clay layer at the site. The western cement bentonite slurry wall will tie into the stabilized soil at the perimeter of OU-2 East (BCP Site C915201B) which extends into the low permeability clay layer along the upgradient areas of the site. The eastern cement bentonite slurry wall will tie into the soil bentonite slurry wall installed along the western end of OU-4 (BCP Site C915201E). The cement bentonite slurry will be a minimum of two feet wide and will achieve an effective hydraulic conductivity of 1×10^{-7} centimeters/second (cm/sec). Due to constructability issues, a small section of the cement bentonite wall constructed by jet grouting will achieve an effective hydraulic conductivity of 1×10^{-6} cm/sec. The sealed steel bulkhead will be constructed with interlocking steel sheet piles and steel king piles. The interlocking joints between the steel piles will be sealed with an interlock sealant.

7. GROUNDWATER EXTRACTION AND TREATMENT

The existing well point system installed along the Buffalo River for groundwater extraction will be decommissioned and a new groundwater extraction system will be implemented for continued removal of petroleum NAPL in groundwater and to maintain a hydraulic gradient into the containment system. The groundwater extraction system will operate in conjunction with the hydraulic control barrier system discussed in Paragraph 6 to prevent the off-site migration of contaminants. The groundwater extraction system will consist of six new groundwater extraction wells. The extraction wells will be designed and installed so that the capture zone is sufficient to cover the areal and vertical extent of the site that contains separate phase petroleum adjacent to the Buffalo River and maintain an inward gradient within the hydraulic containment area. The extraction system will create a depression in the water table so that contaminated groundwater and separate phase petroleum is directed toward the extraction wells within the plume area.

The extracted groundwater will be processed through the existing groundwater treatment system at the site to remove petroleum NAPL and treat contaminated groundwater by air sparging to strip away contaminants from the water. The groundwater is discharged to the local publicly owned treatment works. The exhaust air is treated using activated carbon technology.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

8. COVER SYSTEM

A site cover will be required to allow for commercial and industrial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

Further, to reduce the infiltration of precipitation and thus limit the volume of groundwater requiring extraction and treatment, a low permeability cover will be required within the hydraulic containment area of OU-3 discussed in paragraph 7. This will be accomplished by installing low permeability covers consisting of either new pavement, rehabilitated pavement or low permeable geosynthetic liners covered with the required minimum 1-foot of cover soil.

9. ENGINEERING AND INSTITUTIONAL CONTROLS

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 commercial cleanup at a minimum and will include an environmental easement and site management plan as described below.

Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

10. SITE MANAGEMENT PLAN

A Site Management Plan, which includes the following:

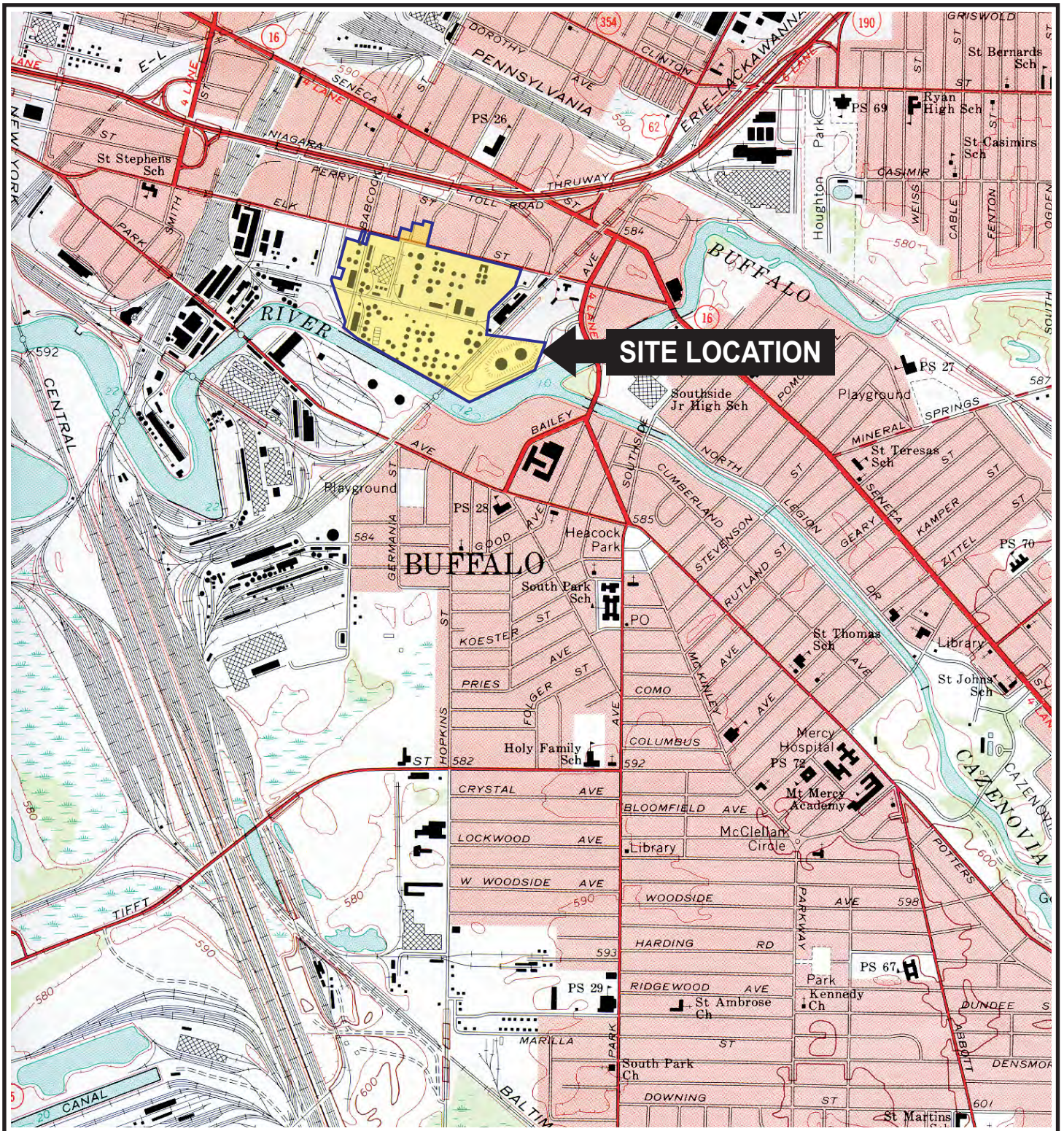
- a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The environmental easement discussed in Paragraph 9 above.

Engineering Controls: The hydraulic containment system discussed in Paragraph 6, the groundwater extraction system discussed in Paragraph 7 and the site cover discussed in Paragraph 8.

This plan includes, but may not be limited to:

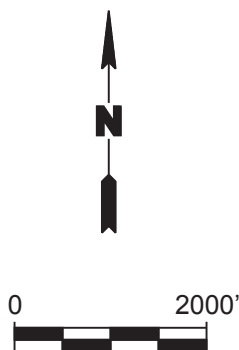
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion for any existing and new buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - provisions for the management and inspection of the identified engineering controls;
 - a provision that should an existing or future building or building foundation be demolished in the future, a cover system consistent with that described in Paragraph 8 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable SCOs;
 - provisions for the management and inspection of the identified engineering controls;
 - maintaining site access controls and Department notification; and
 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater to assess the performance and effectiveness of the remedy;
 - a schedule of monitoring and frequency of submittals to the Department; and
 - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- procedures for operating and maintaining the remedy;
 - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
 - maintaining site access controls and Department notification; and
 - providing the Department access to the site and O&M records.



QUADRANGLE LOCATION



SOURCE:
USGS; 1965, Buffalo SE, New York
7.5 Minute Topographic Quadrangle



Title:

SITE LOCATION MAP

EXXONMOBIL FORMER BUFFALO TERMINAL, BUFFALO, NEW YORK

Prepared for:

EXXONMOBIL OIL CORPORATION

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting
& Management

Compiled by: W.K.	Date: 29AUG12	FIGURE 1
Prepared by: J.A.D.	Scale: AS SHOWN	
Project Mgr.: N.C.	Project No.: 0172.0052Y015	
File No.: 0172.0052Y441.02.CDR		

Existing
OU-1 Site
C915201
0.3 ac.

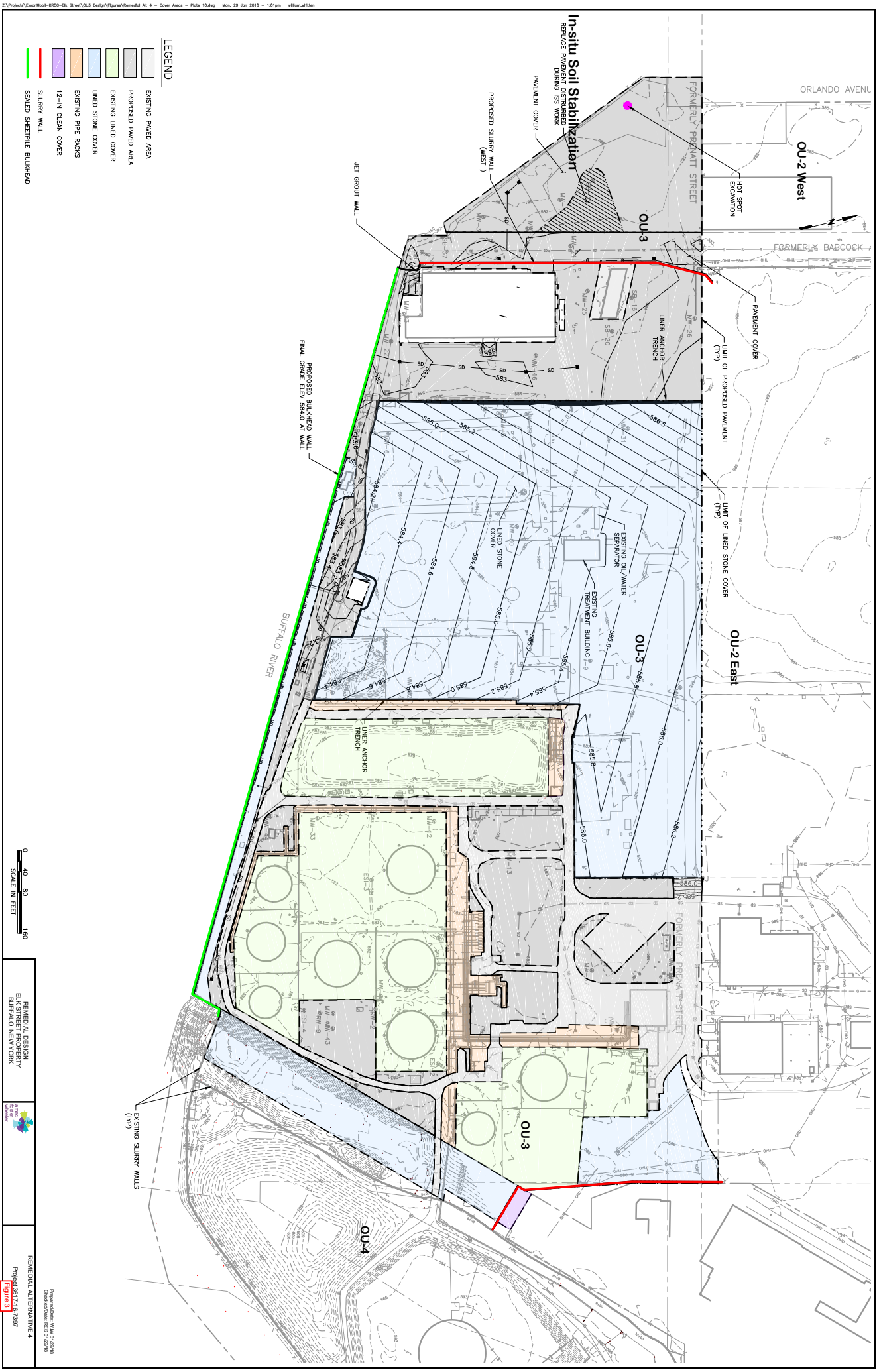
Exhibit C:
Current Proposed BCA Divisions
as of Feb. 20, 2017

	Original Exxon-Mobil BCA (OU-1)
	New ESCP BCA Application (OU-2, partial)
	New ESCP BCA Application (OU-2, partial)
	New ESCP BCA Application (OU-3)
	New Exxon-Mobil BCA Application (OU-4)

OU-2 West Site
OU-2 East Site
C915201 C
C915201 B
22.7 ac.
4.1 ac.
6.7 ac.

OU-3 Site
C915201 D
10.8 ac.
6.8 ac.

OU-4 Site
C915201 E
17.0 ac.
16.7 ac.





February 9, 2021

Dear Tim Ryan:

The following is in response to your request for proof of delivery on your item with the tracking number:
9481 7036 9930 0039 3260 82.

Item Details

Status: Delivered to Agent for Final Delivery
Status Date / Time: February 9, 2021, 11:33 am
Location: BUFFALO, NY 14202
Postal Product: Priority Mail Express 1-Day®
Extra Services: PO to Addressee
Signature Service
Up to \$100 insurance included
Recipient Name: NADINE MARREO
Actual Recipient Name: R D

Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

Weight: 11.0oz

Recipient Signature

Signature of Recipient:
(Authorized Agent)

RM
C-19

Address of Recipient:

65 NIAGARA SQ RM 920
BUFFALO, NY 14202

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



Elk Street Solar LLC

Timothy M. Ryan
Director

400 Market Industrial Park, Suite 32
Wappingers Falls, NY 12590
814-217-9263
tim.ryan@bqenergy.com

February 8, 2021

Mark Rountree, Principal Planner
Erie County Department of Environment & Planning
95 Franklin St., Room 1064
Buffalo, NY 14202

Elk Street Solar LLC Photovoltaic Solar System – Brownfield Opportunity Area

Dear Mr. Rountree:

We are requesting a Determination of Conformance from the New York Secretary of State for the part of our solar project located at 503 Elk Street, Buffalo. The project site is located within the Buffalo River Corridor Brownfield Opportunity Area, and the site owners have completed the remediation requirements of the DEC's Brownfield Cleanup Program.

We are pleased to provide you with the attached complete application form and all its attachments. Upon your receipt, we will send the full application to the Department of State.

Please let me know if you have any questions or comments.

Yours truly,

Timothy M. Ryan
Director

cc: Paul Neureuter, Elk Street Commerce Park
Kim Nason, Phillips Lytle



February 9, 2021

Dear Tim Ryan:

The following is in response to your request for proof of delivery on your item with the tracking number:
9481 7036 9930 0039 3260 75.

Item Details

Status: Delivered
Status Date / Time: February 9, 2021, 10:36 am
Location: BUFFALO, NY 14202
Postal Product: Priority Mail Express 1-Day®
Extra Services: PO to Addressee
Signature Service
Up to \$100 insurance included
Recipient Name: MARK ROUNTREE
Actual Recipient Name: E C

Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

Weight: 11.0oz

Destination Delivery Address

Street Address: 95 FRANKLIN ST RM 1064
City, State ZIP Code: BUFFALO, NY 14202-3928

Recipient Signature

Signature of Recipient:

Address of Recipient:

95 FRANKLIN ST RM 101
BUFFALO, NY 14202

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Washington, D.C. 20260-0004



Elk Street Solar LLC

Timothy M. Ryan
Director

400 Market Industrial Park, Suite 32
Wappingers Falls, NY 12590
814-217-9263
tim.ryan@bqenergy.com

February 8, 2021

Nadine Marrero, Director of Planning
City of Buffalo, Planning Division
65 Niagara Square, Room 920, Buffalo, NY 14202

Elk Street Solar LLC Photovoltaic Solar System – Brownfield Opportunity Area

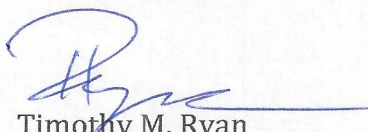
Dear Ms. Marrero:

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We are pleased to provide you with the attached complete application form and all its attachments. Upon your receipt, we will send the full application to the Department of State.

Please let me know if you have any questions or comments.

Yours truly,



Timothy M. Ryan
Director

cc: Paul Neureuter, Elk Street Commerce Park
Kim Nason, Phillips Lytle